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LAND SNAILS OF CAPE MAY, NEW JERSEY.

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The littoral of Southern New Jersey is perhaps as unpromising collecting ground for the land shell hunter as can be found in the Eastern States. The general physical features of the region are well known, now that the whole coast has become a great summer playground; but it may be said that the land snails are nearly or entirely confined to the occasional patches and strips of cedar scrub on the islands and along the shore, usually within a couple of hundred yards of the beach, and often separated from it by a narrow strip of shifting sand dunes. Between these littoral cedar groves and the mainland proper, wide stretches of salt marsh intervene, intersected by inlets, and inhabited by myriads of *Melampus lineatus*, *Litorina irrorata* and *Modiola plicatula*.

Such situations occur at frequent intervals from Atlantic City to Cape May. At the latter place the salt marshes are reduced to a minimum; but in common with the more northern localities, the shore strip is insulated, so far as the land snail fauna is concerned, by the pine belt of the interior. There are, however, many deciduous trees and a rich soil at Cape May, while at the more northern localities the deciduous trees are wanting, except where imported, and the dark soil is a mere film over nearly pure sand.

The snails are everywhere, so far as my own experience goes, confined to the cedar groves. At Cape May Point there is a dense growth of cedar, oak, dwarf plum, bay, with more or less holly and prickly pears. It need not be mentioned to a New Jersey naturalist

that in these choice retreats mosquitoes are abundant. The New Jersey mosquito, like Napoleon's famous Old Guard, dies, but never surrenders. You wipe him off, and the gore flows freely. Here were found *Polygyra albolabris maritima*, *Bifidaria hordeacella*, *B. pentodon*, *Vertigo milium*, *Zonitoides arboreus*, *Agriolimax campestris* and *Succinea campestris vagans*. Only one specimen each of the *Zonitoides* and *Agriolimax* were found. An additional species, *Zonitoides minusculus*, occurred a few miles further northwest.

In Cape May city, on mounds around the tanks at the gas works at 703 Lafayette street, I found *Vallonia pulchella* and *Pupoides marginatus* quite abundant. These may possibly be imported species, as nothing of them was seen except in the old and long settled part of town.

The most remarkable records are *Bifidaria hordeacella*, a species of the Gulf States, hitherto not known north of the Georgia Sea Islands, and the very distinct variety of *Succinea*, which may be defined thus :

Succinea campestris vagans, n. v.

Shell similar to *S. campestris* in the wrinkled surface and very convex last whorl, but smaller, with only $2\frac{2}{3}$ whorls in fully mature specimens, the aperture shorter and less ovate, and the color a rather pale olive-green, translucent, with scarcely any whitish layer within ; surface rather dull.

Length 9, diam. 6.5, longest axis of aperture 6.2 mm.

Length 7.6, diam. 5.6, longest axis of aperture 5.4 mm.

Cape May Point, N. J. (H. A. P., August, 1898.) Types No. 78,882, coll. A. N. S.

I cannot refer the specimens to any Northern species. They are nearer *S. campestris*, which extends from the Georgia coast, throughout Florida, and west to the mouth of the Mississippi, the western specimens being the thin, smooth and glossy variety *unicolor* of Tryon.

Some years ago, Mr. W. B. Marshall reported *Succinea avara* from Cape May. "The exact locality was on the ocean front at 8th avenue, Mt. Vernon, between Cape May City and Cape May Point, and was not more than 200 feet from the line of high tide."¹ Some of these specimens are now before me, and seem referable to *S. aurea* Lea rather than to *avara*; though it must be acknowledged that the

¹ NAUTILUS, VI, p. 19, June, 1892.

determination of *Succineas* is often far from certain. Similar shells were sent by Mr. C. Le Roy Wheeler, also from Cape May, exact locality not given.

My collection was made in August, 1898.

MOLLUSCA OF SOUTHERN KENTUCKY.¹

BY SADIE F. PRICE.

While engaged in botanical work, I have collected the following land and fresh-water shells, most of them in Warren county :

Polygyra plicata Say.

Polygyra divesta Gld. Scarce. Probably the first time this species has been listed so far east or north. Bowling Green.

Polygyra troostiana Lea.

Polygyra monodon Rack.

Polygyra palliata Say. Warren, Barren and Edmonson counties, and East Kentucky at Burnside.

Polygyra appressa Say. Common, Warren and Edmonson counties.

Polygyra inflecta Say. Common, Warren, Barren and Edmonson counties.

Polygyra rugeli Shuttl. Bowling Green.

Polygyra tridentata Say. Common, Warren, Edmonson and Barren counties.

Polygyra obstricta Say. Not common. Under rotten logs. Warren and Barren counties.

Polygyra albolabris Say. Warren, Barren and Edmonson counties.

Polygyra elevata Say. Common throughout South Kentucky.

Polygyra exoleta Binn. Very common.

Polygyra clausa Say.

Polygyra thyroides Say. Very abundant.

Polygyra thyroides bucculentus Gld. Bowling Green.

Polygyra downieana Bld. Rare. Warren and Edmonson counties.

Polygyra profunda Say. Scarce. Edmonson county.

Polygyra stenotrema Fér.

¹ I am indebted to Mr. C. T. Simpson, National Museum, for naming doubtful Unios.